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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 09/866,520 | 05/25/2001 | Paul Coleman | CTX-072 | 4218 |

959 7590 06/01/2005

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| EXAMINER | |
|---|---|
| BENGZON, GREG C | |

| ART UNIT | PAPER NUMBER |
|---|---|
| 2144 | |

DATE MAILED: 06/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 09/866,520 | COLEMAN ET AL | |
| | Examiner | Art Unit | |
| | Greg Bengzon | 2144 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *14 March 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-12* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-12* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

## DETAILED ACTION

This application has been examined. Claims 1-12 are pending. Claims 1,7, 9, 10, and 11 are amended. No new Claims have been submitted.

### *Priority*

This application claims benefits of priority from US provisional patent application 60/207532 filed May 26,2000 and 60/225217 filed August 14, 2000.

The effective date of the claims in this application is May 26, 2000.

### *Information Disclosure Statement*

The information disclosure statements (IDS) submitted were filed after the mailing date of the application on May 25, 2001. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

**(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section**

351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-2, 5-8, 11-12 are rejected under 35 U.S.C. 102(e) as being anticipated by Deering (US Patent 6603470).

With respect to Claim 1 (amended), Deering disclosed a method of efficiently reducing the amount of graphical data transmitted from a server to a client via a communications network (Figure 1, Column 5 Lines 1-65, Column 6 Lines 1-10) , the method comprising the steps of: separating a path into a plurality of strips (Column 6 Lines 20-25, Column 7 L x 50-60), each of the plurality of strips having a beginning and an endpoint coordinate defined within a coordinate system, a strip length and an absolute angle associated therewith, the coordinate system corresponding to a region of a display surface associated with the client (Figure 14B Column 21 Lines 30-35); determining a quantized angle associated with the absolute angle for each of the plurality of strips forming a protocol stream at the server, the protocol stream including a beginning coordinate of the path and the strip length and an indicia of the quantized angle of each of the plurality of strips ; and transmitting the protocol stream from the server to the client via the communications network. (Figure 14A Column 21 Lines 10-15, Figure 4I Column 13 Lines 45-50, Figure 5 Column 10 Lines 30-35)

With respect to Claim 2, Deering disclosed the method of claim 1 further comprising the step of compressing the beginning coordinate of the path and the strip length and the indicia of the quantized angle of each of the plurality of strips prior to transmitting the protocol stream to the client. (Figure 5 Column 14 Lines 40-65)

With respect to Claim 5, Deering disclosed the method of claim 1 wherein the indicia of the quantized angle corresponds to a quantized angle delta. (Figure 14B Column 21 Lines 30-35)

With respect to Claim 6, Deering disclosed a method of efficiently reducing the amount of graphical data transmitted from a server to a client via a communications network, the method comprising the steps of: separating a path into a plurality of strips, (Figure 1, Column 5 Lines 1-65, Column 6 Lines 1-10, Column 7 Lines 50-60) each of the plurality of strips having a beginning and an endpoint coordinate defined within a coordinate system, the coordinate system corresponding to a region of a display surface associated with the client; quantizing the coordinate system into a plurality of quantized angles; determining the endpoint coordinate of a first one of the plurality of strips; normalizing the endpoint coordinate of the first strip to correspond to the origin of the coordinate system; (Figure 1, Column 6 Lines 20-25, Figure 14A , Column 21 Lines 10-15, Figure 4I , Column 13 Lines 45-50, Figure 5 Column 10 Lines 30-35, Figure 14E Column 23 Lines 10-20, Column 14 Lines 40-55) associating the endpoint coordinate of the first strip to a beginning coordinate of a second one of the plurality of

strips; selecting one of the plurality of quantized angles of the coordinate system, the selected quantized angle corresponding to an approximate angle of the second strip; and transmitting a difference between the endpoint coordinates of the first and second strips and an indication of the quantized angle to the client. (Figure 1, Column 6 Lines 20-25, Figure 14A , Column 21 Lines 10-15, Figure 4I , Column 13 Lines 45-50, Figure 5 Column 10 Lines 30-35, Figure 14E Column 23 Lines 10-20, Column 14 Lines 40-55)

With respect to Claim 7, Deering disclosed a system for efficiently reducing the amount of graphical data transmitted from a server to a client via a communications network, the system comprising: a server agent operating on the server and coupled to the client via the communications network, (Figure 1, Column 5 Lines 1-65, Column 6 Lines 1-10, Column 7 Lines 50-60) wherein the server agent a) separates a path into a plurality of strips, each of the plurality of strips having a strip length and an absolute angle associated therewith; b) determines a quantized angle associated with the absolute angle for each of the plurality of strips; (Figure 1, Column 6 Lines 20-25, Figure 14A , Column 21 Lines 10-15, Figure 4I , Column 13 Lines 45-50, Figure 5 Column 10 Lines 30-35, Figure 14E Column 23 Lines 10-20, Column 14 Lines 40-55) c) forms a protocol stream at the server, the protocol stream including a beginning coordinate of the path and the strip length and an indicia of the quantized angle of each of the plurality of strips; and d) transmits the protocol stream from the server to the client via the communications network. (Figure 1, Column 6 Lines 20-25, Figure 14A ,

Column 21 Lines 10-15, Figure 4I , Column 13 Lines 45-50, Figure 5 Column 10 Lines 30-35, Figure 14E Column 23 Lines 10-20, Column 14 Lines 40-55)

With respect to Claim 8, Deering disclosed the system of claim 7 wherein the server agent compresses the beginning coordinate of the path and the strip length and the indicia of the quantized angle of each of the plurality of strips prior to transmitting the protocol stream to the client. (Figure 5 Column 14 Lines 40-65)

With respect to Claim 11, Deering disclosed the method of claim 7 wherein the indicia of the quantized angle corresponds to a quantized angle delta. (Figure 14B Column 21 Lines 30-35)

With respect to Claim 12, Deering disclosed a system for efficiently reducing the amount of graphical data transmitted from a server to a client via a communications network, the system comprising: a server agent operating on the server and coupled to the client via the communications network, (Figure 1, Column 5 Lines 1-65, Column 6 Lines 1-10, Column 7 Lines 50-60) wherein the server agent a) separates a path into a plurality of strips, each of the plurality of strips having a beginning and an endpoint coordinate defined within a coordinate system, the coordinate system corresponding to a region of a display surface associated with the client; b) quantizes the coordinate system into a plurality of quantized angles; c) determines the endpoint coordinate of a

first one of the plurality of strips; d) normalizes the endpoint coordinate of the first strip to correspond to the origin of the coordinate system; (Figure 1, Column 6 Lines 20-25, Figure 14A , Column 21 Lines 10-15, Figure 4I , Column 13 Lines 45-50, Figure 5 Column 10 Lines 30-35, Figure 14E Column 23 Lines 10-20, Column 14 Lines 40-55) e) associates the endpoint coordinate of the first strip to a beginning coordinate of a second one of the plurality of strips; f) selects one of the plurality of quantized angles of the coordinate system, the selected quantized angle corresponding to an approximate angle of the second strip; and g) transmits a difference between the endpoint coordinates of the first and second strips and an indication of the quantized angle to the client. (Figure 1, Column 6 Lines 20-25, Figure 14A , Column 21 Lines 10-15, Figure 4I , Column 13 Lines 45-50, Figure 5 Column 10 Lines 30-35, Figure 14E Column 23 Lines 10-20, Column 14 Lines 40-55)

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 3 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Deering (US Patent 6603470) in view of Hsieh et al. (US Patent 5883640), hereinafter referred to as Hsieh.

With respect to Claims 3 and 9, Deering discloses the method of Claim 1 and system of Claim 7 wherein the protocol stream includes an indicia associated with at least one of the plurality of strips. (Figure 14A Column 21 Lines 10-15, Figure 4I Column 13 Lines 45-50, Figure 5 Column 10 Lines 30-35)

However Deering does not disclose the said protocol stream includes an indicia corresponding to an index identifying a location of the at least one of the plurality of strips within a cache memory coupled to the client.

Hsieh discloses of a method using string caching to improve the performance of the graphical user interface during the display of said strings, wherein an index identifies the location of a string in cache memory. A string is defined as a connected sequence of characters or bits treated as a single data item. As such, strings are also considered to be glyphs, wherein a glyph is defined as an image, usually of a character or graphic symbol having an appearance that conveys information. Hsieh discloses the use of a 12-bit pointer applied as an index into the cache pointer table, and applies a pointer at the indexed location of the cache pointer table to determine whether the input string is equivalently represented in the string cache memory. (Figure 4, Column 13 Lines 5-45, Column 14 Lines 5-45)

Deering and Hsieh are analogous art because they present concepts and practices regarding the acceleration of delivery and rendering of graphical data using cache memory. (See Deering Column 17 Lines 5-10) It is respectfully suggested that at the time of the invention it would have been obvious to a person of ordinary skill in the art to combine the teachings of Hsieh regarding use of indices and pointers for location of data in cache memory into the system and method of Deering, such that said indices and pointers, once they are established, are included in the protocol stream. The suggested motivation for doing so would have been, as Hsieh suggests, to exploit the redundancy of displayed glyphs by allowing a single string request across a system bus activates the display of the entire string, including a display of selected attributes and characteristics. Hsieh discloses that the caching technique improves the performance during display of characters because rendering of the individual characters is avoided after the cache is initialized. (See Hsieh Column 1 Lines 50-65, Column 2 Lines 55-65) Since Deering has already indicated that the compressed data is to be stored in cache memory, it would be logical and obvious to include the index and location information in the protocol stream once they are established. By including the index and location information in the protocol stream, the client in Deering's system is able to determine whether the input string is equivalently represented in the string cache memory without unnecessary overhead operations, thereby helping the acceleration process.

Therefore it would have been obvious to combine the teachings of Hsieh into the method and system of Deering in order to arrive at the invention described in Claims 3 and 9.

Claims 4 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Deering (US Patent 6603470) in view of Peterson (US Patent Publication 2003/0084052).

With respect to Claims 4 and 10, Deering discloses the method of Claim 1 and system of Claim 7 wherein the protocol stream includes an indicia associated with at least one of the plurality of strips. (Figure 14A Column 21 Lines 10-15, Figure 4I Column 13 Lines 45-50, Figure 5 Column 10 Lines 30-35)

However Deering does not disclose the said protocol stream including an indicia corresponding to a fuzzy key identifying a location of the at least one of the plurality of strips within a persistent storage memory coupled to the client.

Peterson discloses of a processing structure for locating and retrieving data in which the physical architecture of a distributed memory system parallels the visual or conceptual architecture of the logic structure. Peterson discloses of a fuzzy logic system that not only identify and classify but grade or weigh the information. Using a

weighted, most recent use and frequency of use protocol for data packet worth evaluation, the location of a data packet in the memory structure or its residence in a data cache of a processor element can be effected by appropriate programming. Coupled with whatever value tag that accompanies the data packet to deliberately delay or accelerate the data packet throughput, an effective fuzzy control over the throughput of information can be developed. (Page 1 Par. 002, Par. 006, Page 7 Par. 0085, Page 5 Par. 0070-0071, Page 6 Par. 0078)

Deering and Peterson are analogous art because they present concepts and practices regarding the acceleration of delivery and rendering of graphical data using cache memory. (See Deering Column 17 Lines 5-10) It is respectfully suggested that at the time of the invention it would have been obvious to a person of ordinary skill in the art to combine the teachings of Peterson regarding use of memory tags for location of data in cache memory into the system and method of Deering, such that said indices and pointers for the fuzzy control logic, once they are established, are included in the protocol stream. The motivation for doing so would have been, as Peterson suggests, so that data items are retrieved expeditiously given the massive quantities of multimedia information and repetitively used items. (See Peterson Par. 005) Since Deering has already indicated that the compressed data is to be stored in cache memory, it would be logical and obvious to include the index and location information in the protocol stream once they are established. By including the index and location information in the protocol stream, the client computer in Deering's system is able to determine, using the fuzzy control logic, whether the graphical data is equivalently

represented in the cache memory without unnecessary overhead operations, thereby helping the acceleration process.

Therefore it would have been obvious to combine the teachings of Peterson into the method and system of Deering in order to arrive at the invention described in Claims 4 and 10.

***Response to Arguments***

Applicant's arguments filed 03/14/2005 have been fully considered but they are not persuasive. The reasons for non-persuasiveness are set forth below.

The Examiner acknowledges amendments to Claims 9 and 10 and withdraws objection to said Claims.

The Applicant suggests that Deering fails to teach the element of separating a path into a plurality of strips, each of the plurality of strips having a beginning and an endpoint coordinate defined within a coordinate system, the coordinate system corresponding to a region of a display surface associated with the client.

The Examiner respectfully disagrees with the Applicant. In Column 7 Lines 50-60, Deering states that the disclosed method for compression is not limited to triangles,

and that vectors and dots may also be similarly compressed. The Examiner notes that the Microsoft Dictionary describes a vector as a line drawn in a certain direction from a starting point to an endpoint, both of whose locations are identified by the computer using x-y-coordinates on a grid.

The Applicant suggests that Deering does not teach the element of separating a path into a plurality of strips, each of the plurality of strips having a beginning and an endpoint coordinate defined within a coordinate system, the coordinate system corresponding to a region of a display surface associated with the client because Deering does not discuss about strips but rather a generalized triangular mesh data structure that represents a surface geometry.

The Examiner respectfully disagrees with the Applicant. In Column 7 Lines 50-60, Deering states that the disclosed method for compression is not limited to triangles, and that vectors and dots may also be similarly compressed. The Examiner notes that the Microsoft Dictionary describes a vector as a line drawn in a certain direction from a starting point to an endpoint, both of whose locations are identified by the computer using x-y-coordinates on a grid.

The Applicant suggests that Deering discusses how to represent a vertex of a triangle in a surface geometry, and not how to separate a path into a plurality of strips,

each of the plurality of strips having a beginning and an endpoint coordinate defined within a coordinate system, the coordinate system corresponding to a region of a display surface associated with the client, as required by independent claims 1, 6, 7, and 12.

The Examiner respectfully disagrees with the Applicant. In Column 7 Lines 50-60, Deering states that the disclosed method for compression is not limited to triangles, and that vectors and dots may also be similarly compressed. The Examiner notes that the Microsoft Dictionary describes a vector as a line drawn in a certain direction from a starting point to an endpoint, both of whose locations are identified by the computer using x-y-coordinates on a grid.

The Applicant suggests that Hsieh fails to cure the deficiencies of Deering. The Applicant suggests that Hsieh does not teach or suggest the element of separating a path into a plurality of strips, each of the plurality of strips having a beginning and an endpoint coordinate defined within a coordinate system, the coordinate system corresponding to a region of a display surface associated with the client, as recited in independent claims 1, and 7. Hsieh discusses how to improve graphics performance by caching alphanumeric strings on a local computer. Nowhere does Hsieh discuss a client server network or that the server uses a coordinate system corresponding to a region of a display surface associated with the client. Accordingly, Hsieh fails to teach or suggest all the elements of claims 3 and 9.

The Examiner respectfully disagrees with the Applicant. In Column 7 Lines 50-60, Deering states that the disclosed method for compression is not limited to triangles, and that vectors and dots may also be similarly compressed. The Examiner notes that the Microsoft Dictionary describes a vector as a line drawn in a certain direction from a starting point to an endpoint, both of whose locations are identified by the computer using x-y-coordinates on a grid.

The Applicant suggests that Peterson fails to cure the deficiencies of Deering. The Applicant suggests that Peterson does not teach or suggest the element of separating a path into a plurality of strips, each of the plurality of strips having a beginning and an endpoint coordinate defined within a coordinate system, the coordinate system corresponding to a region of a display surface associated with the client. The Applicant suggests that Nowhere does Peterson discuss the element of separating a path into a plurality of strips, each of the plurality of strips having a beginning and an endpoint coordinate defined within a coordinate system, the coordinate system corresponding to a region of a display surface associated with the client. Accordingly, Peterson fails to teach all the limitations in claims 4 and 10. Applicants respectfully request the Examiner to reconsider and withdraw the rejection of claims 4 and 10.

The Examiner respectfully disagrees with the Applicant. In Column 7 Lines 50-60, Deering states that the disclosed method for compression is not limited to triangles, and that vectors and dots may also be similarly compressed. The Examiner notes that the Microsoft Dictionary describes a vector as a line drawn in a certain direction from a starting point to an endpoint, both of whose locations are identified by the computer using x-y-coordinates on a grid.

***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Greg Bengzon whose telephone number is (571) 272-3944. The examiner can normally be reached on Mon. thru Fri. 8 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wiley can be reached on (571) 272-3923. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

gcb

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